

Test Equipment Solutions Datasheet

Test Equipment Solutions Ltd specialise in the second user sale, rental and distribution of quality test & measurement (T&M) equipment. We stock all major equipment types such as spectrum analyzers, signal generators, oscilloscopes, power meters, logic analysers etc from all the major suppliers such as Agilent, Tektronix, Anritsu and Rohde & Schwarz.

We are focused at the professional end of the marketplace, primarily working with customers for whom high performance, quality and service are key, whilst realising the cost savings that second user equipment offers. As such, we fully test & refurbish equipment in our in-house, traceable Lab. Items are supplied with manuals, accessories and typically a full no-quibble 2 year warranty. Our staff have extensive backgrounds in T&M, totalling over 150 years of combined experience, which enables us to deliver industry-leading service and support. We endeavour to be customer focused in every way right down to the detail, such as offering free delivery on sales, covering the cost of warranty returns BOTH ways (plus supplying a loan unit, if available) and supplying a free business tool with every order.

As well as the headline benefit of cost saving, second user offers shorter lead times, higher reliability and multivendor solutions. Rental, of course, is ideal for shorter term needs and offers fast delivery, flexibility, try-before-you-buy, zero capital expenditure, lower risk and off balance sheet accounting. Both second user and rental improve the key business measure of Return On Capital Employed.

We are based near Heathrow Airport in the UK from where we supply test equipment worldwide. Our facility incorporates Sales, Support, Admin, Logistics and our own in-house Lab.

All products supplied by Test Equipment Solutions include:

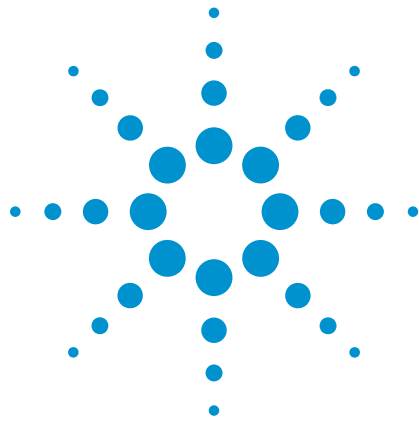
- No-quibble parts & labour warranty (we provide transport for UK mainland addresses).
- Free loan equipment during warranty repair, if available.
- Full electrical, mechanical and safety refurbishment in our in-house Lab.
- Certificate of Conformance (calibration available on request).
- Manuals and accessories required for normal operation.
- Free insured delivery to your UK mainland address (sales).
- Support from our team of seasoned Test & Measurement engineers.
- ISO9001 quality assurance.

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Agilent
E3640A – E3649A
Programmable DC Power Supplies

Data Sheet



Agilent Technologies

Reliable Power, Repeatable Results

- **Single and dual outputs**
- **Dual range output**
- **30 W to 100 W output power**
- **Front and rear output terminals**
- **Over-voltage protection**
- **Remote Sensing**
- **GPIB and RS-232 standard**
- **Save and recall functions**



Great Performance, Outstanding Price

With the output power of 30 to 100 W, the Agilent E364xA Series programmable DC power supplies provide great performance at a great price. All ten models deliver clean power, excellent regulation, fast transient response and built-in GPIB and RS-232 interfaces. They are designed to meet the needs of R&D design verification, production testing, QA verifications, and other demanding applications with Agilent Technologies's quality and reliability.

Steady Output

With 0.01 percent load and line regulation, Agilent E364xA power supplies are able to maintain a steady output when power line and load changes occur. They also specify normal mode voltage noise and low common mode current noise. The low normal mode noise specification assures clean power for precision circuitry applications, and the low common mode current provides isolation from power line current injection. Agilent E364xA power supplies specify less than 90 msec of voltage settling time at any output load condition.

Remote Interface

Agilent E364xA power supplies support any PC with a GPIB (IEEE-488) card or RS-232 interface. Every model ships standard with both GPIB and RS-232. The easy-to-use SCPI (Standard Commands for Programmable Instruments) allow fast and simple programming procedures. Besides, the user manual provides sufficient information on programming for all end users, from beginners to veterans.

Broad Support

VXI *plug and play* software drivers are available for Agilent VEE, National Instruments LabView™ and LabWindows™. With these drivers, integration of the E364xA into your system can never be any easier. The drivers are supported under Microsoft® Windows 98® and NT®.

Front Panel Operation

An easy-to-use rotary knob and self-guiding keypads allow you to set the output at your desired resolution without any effort. Also, both voltage and current levels can be set to a maximum resolution of 10 mV/1 mA from the front panel. In addition, you can store and recall for up to five complete power supply setups using the internal non-volatile memory.

The output on/off button sets the output to zero. If you own a dual output model, you can view two voltages or currents that are displayed simultaneously.

Versatile Power

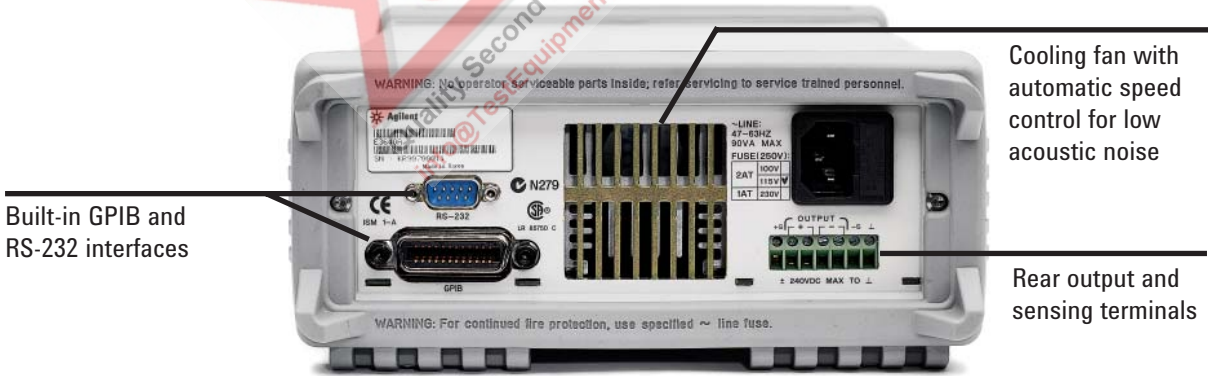
Agilent E364xA power supplies give you the flexibility to select from dual output ranges. Output load is protected against overvoltage, which can be easily monitored and adjusted from the front panel and remote interface. Remote sensing is available in the rear terminal to eliminate errors caused by voltage drops on the load leads. These power supplies offer new versatile binding posts on the front panel and screw-type terminals on the rear panel. New front panel binding posts allow you to use safety test leads as well as conventional banana clips and stripped wires. An optional rackmount kit is available. The Agilent E364xA Series employs a cooling fan with automatic speed control to reduce the acoustic noise.

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Microsoft Windows 98 and Windows NT are US registered trademarks of Microsoft Corporation.



1 year warranty protects your investment



Agilent E3640A – E3649A Programmable DC Power Supply Specifications

Model Number	E3640A	E3641A	E3642A	E3643A	E3644A	E3645A
Maximum Power	30 W		50 W		80 W	
# of Outputs	1	1	1	1	1	1
DC Output Rating (@ 0 °C to 40 °C)	0 to 8 V/3 A or 0 to 20 V/1.5 A	0 to 35 V/0.8 A or 0 to 60 V/0.5 A	0 to 8 V/5 A or 0 to 20 V/2.5 A	0 to 35 V/1.4 A or 0 to 60 V/0.8 A	0 to 8 V/8 A or 0 to 20 V/4 A	0 to 35 V/2.2 A or 0 to 60 V/1.3 A
Net Weight	5.3 kg	5.2 kg	6.3 kg	6.2 kg	6.6 kg	6.7 kg
Dimensions (without bumper)	212.6 mm W x 88.5 mm H x 348.3 mm D					

Model Number	E3646A	E3647A	E3648A	E3649A
Maximum Power	60 W		100 W	
# of Outputs	2	2	2	2
DC Output Rating (@ 0 °C to 40 °C)	Two 0 to 8 V/3 A or 0 to 20 V/1.5 A	Two 0 to 35 V/0.8 A or 0 to 60 V/0.5 A	Two 0 to 8 V/5 A or 0 to 20 V/2.5 A	Two 0 to 35 V/1.4 A or 0 to 60 V/0.8 A
Net Weight	8.2 kg	8.0 kg	9.2 kg	9.1 kg
Dimensions (without bumper)	212.8 mm W x 133.0 mm H x 348.3 mm D			

Load and Line Regulation ± (% of output + offset)	
Voltage	< 0.01% + 3 mV
Current	< 0.01% + 250 µA
Ripple and Noise (20 Hz to 20 MHz)	
Normal Mode Voltage	< 5 mVpp/0.5 mVrms for 8 V/20 V models < 8 mVpp/1 mVrms for 35 V/60 V models
Normal Mode Current	< 4 mArms
Common Mode Current	< 1.5 µArms
Accuracy ¹ 12 Months (@ 25 °C ± 5 °C), ± (% output + offset)	
Programming	
Voltage	< 0.05% + 10 mV (< 0.1% + 25 mV for output 2 of E3646/47/48/49 A)
Current	< 0.2% + 10 mA
Readback	
Voltage	< 0.05% + 5 mV (< 0.1% + 25 mV for output 2 of E3646/47/48/49 A)
Current	< 0.15% + 5 mA (< 0.15% + 10 mA for output 2 of E3646/47/48/49 A)
Resolution	
Program	< 5 mV/1 mA
Readback	< 2 mV/1 mA
Meter	10 mV/1 mA
Transient Response	
	Less than 50 µsec for output to recover to within 15 mV following a change in output current from full load to half load or vice versa.
Settling Time ²	
	< 90 msec
OVP	
Accuracy, ± (% output + offset)	< 0.5% + 0.5 V
Activation Time ³	< 1.5 msec, OVP ≥ 3 V/< 10 msec, OVP < 3 V
Temperature Coefficient per °C ± (% output + offset)	
Voltage	< 0.01% + 3 mV (< 0.02% + 5 mV for output 2 of E3646/47/48/49 A)
Current	< 0.02% + 3 mA

¹ Accuracy specifications are valid after a 1-hour warm-up with no load and calibration at 25 °C.

² Maximum time required for the output voltage to change from 1% to 99% or vice versa following the receipt of VOLTage or APPLy command via direct GPIB or RS-232 interface.

³ Average time for output to start and drop after an OVP condition occurred.

Stability , constant load & temperature \pm (% output + offset), 8 hrs	
Voltage	< 0.02% + 2 mV
Current	< 0.1% + 1 mA
Remote Sensing Max. voltage drop in each load lead	1 V
AC Input (47 Hz – 63 Hz)	100 Vac \pm 10% (Opt 0E9)/115 Vac \pm 10% (Std)/230 Vac \pm 10% (0E3)
Warranty	1 year
Product Regulation	Designed to comply with UL3111-1; certified to CSA 22.2 No. 1010.1; conforms to IEC 1010-1; complies with EMC directive 89/336/EEC (Group 1, Class A)

Agilent E364xA Series Power Supplies
E3640A 30-Watt Single Power Supply
E3641A 30-Watt Single Power Supply
E3642A 50-Watt Single Power Supply
E3643A 50-Watt Single Power Supply
E3644A 80-Watt Single Power Supply
E3645A 80-Watt Single Power Supply
E3646A 60-Watt Dual Power Supply
E3647A 60-Watt Dual Power Supply
E3648A 100-Watt Dual Power Supply
E3649A 100-Watt Dual Power Supply

Accessories Included

User's Guide, Quick Reference Guide
and AC power cord

Power Options

Opt. 0E3 230 Vac \pm 10%
Opt. 0EM 1150 Vac \pm 10%
Opt. 0E9 100 Vac \pm 10%

Other Options

Opt. 1CM Rackmount kit*
– Single Output (P/N 5063-9240)
– Dual Output (P/N 5063-9243)
Opt. 0L2 Extra Manual
Opt. UK6 Commercial calibration with
test result data
E3600A-100 Test lead kit

Rackmount Kits*

Agilent E3640A/41A/42A/43A/44A/45A
To rackmount two instruments side-by-side
Lock-link Kit (P/N 5061-9694)
Flange Kit (P/N 5063-9212)
To rackmount one or two instruments in a
sliding support shelf
Support Shelf (P/N 5063-9255)
Slide Kit (P/N 1494-0015) required for
support shelf
For a single instrument, also order
Filter Panel (P/N 5002-3999)

Agilent E3646A/47A/48A/49A
To rackmount two instruments side-by-side
Lock-link Kit (P/N 5061-9694)
Flange Kit (P/N 5063-9214)
To rackmount two instruments in a sliding
support shelf
Support Shelf (P/N 5063-9256)
Slide Kit (P/N 1494-0015)

* Rackmounting with 1CM or lock-link/
flange kit requires
Agilent or customer support rails
Agilent Support Rails-E3663AC



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Agilent Open simplifies the process of connecting and programming test systems to help engineers design, validate and manufacture electronic products. Agilent offers open connectivity for a broad range of system-ready instruments, open industry software, PC-standard I/O and global support, which are combined to more easily integrate test system development.



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Remove all doubt

Our repair and calibration services will get your equipment back to you, performing like new, when promised. You will get full value out of your Agilent equipment throughout its lifetime. Your equipment will be serviced by Agilent-trained technicians using the latest factory calibration procedures, automated repair diagnostics and genuine parts. You will always have the utmost confidence in your measurements.

Agilent offers a wide range of additional expert test and measurement services for your equipment, including initial start-up assistance onsite education and training, as well as design, system integration, and project management.

For more information on repair and calibration services, go to

www.agilent.com/find/removealldoubt

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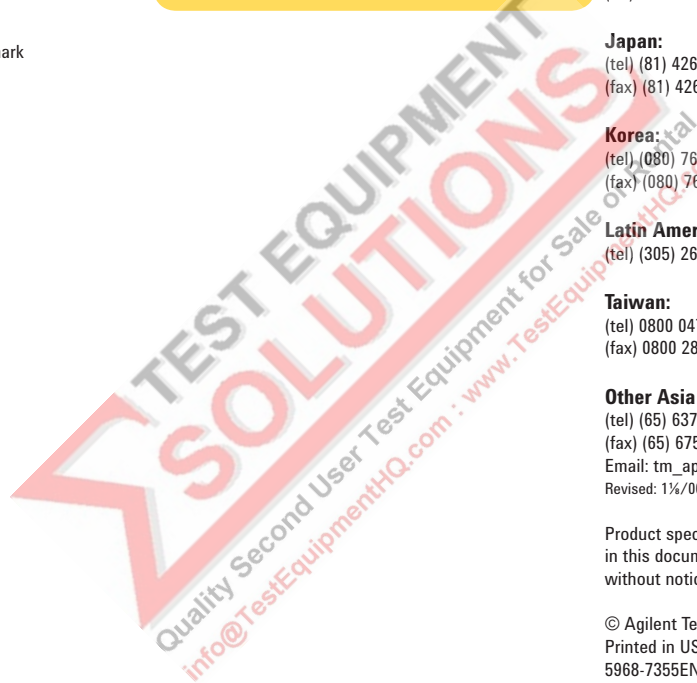
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